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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,347	04/03/2006	Antonio Marchetti	2508-1028	8862
<div>466                      7590                      12/22/2009</div> <div>YOUNG &amp; THOMPSON</div> <div>209 Madison Street</div> <div>Suite 500</div> <div>Alexandria, VA 22314</div>				
EXAMINER				
HAMO, PATRICK				
ART UNIT		PAPER NUMBER		
3746				
NOTIFICATION DATE		DELIVERY MODE		
12/22/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketingDept@young-thompson.com

# Office Action Summary

**Application No.**

10/574,347

**Applicant(s)**

MARCHETTI, ANTONIO

**Examiner**

PATRICK HAMO

**Art Unit**

3746

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 2-5, 8 and 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 6, 7, 9 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/GS-08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 3 Apr 06, 11 Jul 06

### **DETAILED ACTION**

This action is in response to amendments filed on August 3, 2009.

#### ***Election/Restrictions***

Applicant's election with traverse of group III, claims 6, 7, 9 and 10 in the reply filed on August 3, 2009 is acknowledged. The traversal is on the ground(s) that the claims contain one single inventive idea and that all three embodiments apply the one inventive idea. This is not found persuasive because the restriction was not based on different embodiments, but rather on different subcombinations of the general invention, and furthermore that the standard for restriction in a 371 case is not whether there is a single inventive idea broadly asserted, but rather if the different claimed inventions include the same special technical feature. The applicant makes no mention of what the special technical feature common to the restricted inventions that is not taught by the reference discussed in the requirement for election may be.

The requirement is still deemed proper and is therefore made FINAL.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 6, 7, 9 and 10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 6, 7, 9 and 10 include limitations drawn to the toothed rod (21, claims 6 and 7), unidirectional gears (24 and 25, claims 6, 7, 9 and 10) and a differential (28, claims 6, 7, 9 and 10). These features are characteristic of the embodiment of figs. 11-13. This embodiment does not include the sluice gate (1), the filters (2), unidirectional valves (3 and 4) and other features characteristic of the embodiments of figs. 1-10 that are included in claim 1. Therefore, claims 6, 7, 9 and 10, which are dependent from claim 1 and incorporate all the limitations claimed therein, are directed to a combination of embodiments that applicant has neither disclosed as compatible together nor described in such a way as to enable one skilled in the art to make and use.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 6, 7, 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the phrase "or similar" (line 5 of the claim) renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or similar"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 1 recites the broad recitation "for respectively producing compressed air, pumping water or generating mechanic energy", and the claim also recites "a sluice-gate... for closing the passage of the air" which is the narrower statement of the range/limitation. The second limitation implies that the device is for producing compressed air, though it was previously claimed as doing any of compressing air, pumping water or generating mechanic energy.

Claims 6 and 7 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See

MPEP § 2172.01. The omitted structural cooperative relationships are: the positions of the water outlet openings and grills with respect to the toothed rod and gears.

Claim 9 recites the limitation "said differential" in lines 3-4 of the claim. There is insufficient antecedent basis for this limitation in the claim and the claims from which it depends.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Welch, Jr, et al., US 2004/0131479 in view of McLean et al., US 3,595,189, further in view of Heck, US 4,447,740, further in view of Meano, US 6,800,954, and further in view of Brinkerhoff, US 4,242,878.

Welch discloses a hydro-pneumatic device for the exploitation of wave motion wherein at least one submerged cylinder 108 provided in its lower part with an opening for a water inlet (paragraph 271) and at its upper part with openings 124, 126 for producing compressed air, the inlet 126 including a filter (paragraph 215), the openings

including unidirectional valves (paragraph 57), the cylinder including a body 108, a floating piston 120, so that water entering the cylinder due to wave motion (see figs. 4A-4C) pushes the piston toward the head of the cylinder (fig. 4A) so that air is compressed and discharged through outlet 126, and when the wave lowers (fig. 4B), the piston is withdrawn downwards closing the outlet valve and opening inlet valve 124, so that fresh air cleaned by the filter enters the cylinder.

Welch does not disclose a series of cylinders placed onto wharfs or floating pontoons, a conical opening for the water inlet, lateral openings for producing the compressed air, a sluice gate, the piston and cylinder having semispheric heads, or a plurality of bands for sealing the piston.

However, McLean teaches a wave-actuated piston machine that includes a plurality of cylinders 31 installed on a floating structure 24, which would have been an obvious, predictable alternative to fixing the cylinder structure to the sea floor as disclosed by Welch, with a reasonable expectation of success.

Furthermore, Heck teaches a wave responsive generator that includes a conical inlet 48 for greater water intake to the converting device, in this case a turbine, but the principal of allowing greater water inflow intake applicable to a piston pump as well. Therefore, it would have been obvious to a person having ordinary skill in the art to have provided a conical intake portion to the device of Welch.

In regard to the limitation that the openings are lateral, even if the side by side openings of Welch are not interpreted as lateral, but rather laterally is more narrowly defined as along the sides of the cylinder, this would constitute an obvious

rearrangement of parts well known in the art. Meano teaches a wave energy pump with lateral openings 23 and 12 for the transport of compressed air.

Meano also teaches a hand-operated valve 31 that closes the air passage for selectively operating the wave pump. It would have been obvious to a person having ordinary skill in the art that the valve would operate substantially as a sluice gate, and to have modified the pump of Welch with the valve so as to be able to selectively control operation.

Brinkerhoff teaches a compressor with a semispherical cylinder and piston head (56, 70, respectively) and sealing bands 67, 68 and 69 disposed between the piston and cylinder. It would have been an obvious change of shape for a person having ordinary skill in the art to have made the piston semispherical instead of flat as taught by Brinkerhoff.

Claims 6, 7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 1 in view of Scott, US 4,418,286.

In regard to claim 6:

The references as applied to claim 1 above teach all of the limitations substantially as claimed except for the following taught by Scott: a power shaft 19 with teeth for connecting to bevel gear 75 (for the transmission of the shafts); a guide (shaft housing 74) for sliding of the rod, a unidirectional gear 78, a plurality of shafts 98, 102 for the distribution of the mechanical motion, a differential 76, 77, one or more "users" in



the form of electrical generators, with the power shaft being driven by wave motion to capture the mechanical energy of the waves of mechanical energy, which is ultimately used to power electrical generators. It would have been obvious to a person having ordinary skill in the art to have modified the structure of the references as applied to claim 1 above with the teaching of Scott to achieve the predictable result of using the wave energy in the pistons to store electrical energy. Note that the fluid outlets for the water and the outlet coverings of Welch as applied to claim 1 may be interpreted as outlet openings and grills for excess water.

In regard to claim 7:

The references as applied to claim 1, as discussed above, already teach all of the limitations presented in claim 7 except for shock absorbers. However, Scott also teaches shock absorbers 37.

In regard to claim 9:

Gears 75 and 78 are both unidirectional, shafts 98 and 102 distribute the motion, and gear 77 transmits motion to differential 76, 77.

In regard to claim 10:

The references as applied to claim 1 and discussed above teach a series of cylinders so that, when the wave passes, the water enters the cylinder from the inlet cone and receives such a pressure as to push upwards a piston. However, instead of

being connected to a toothed rod which operates gears, the piston compresses air. However, Scott teaches a toothed rod 19 that operates a gear 78 such that the wave motion is transmitted from said rod to distribution shafts 98, 102 so that, when the rod rises, the gear 78 puts into rotation its distribution shaft while gear 75 turns idle, without operating its own shaft, and when the shaft comes down, the inverse happens and the gear puts into rotation its own distribution shaft, while gear turns idle; the movement of the two shafts 98, 102 is transformed into one single direction by said gear and transmitted to said differential 76, 77. It would have been obvious to a person having ordinary skill in the art to have modified the structure of the references as applied to claim 1 above with the teaching of Scott to achieve the predictable result of using the wave energy in the pistons to store electrical energy.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICK HAMO whose telephone number is (571)272-3492. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/  
Supervisory Patent Examiner, Art  
Unit 3746

/Patrick Hamo/  
Patent Examiner, AU 3746